

CLAIMS

What is claimed is:

1. A method of analyzing network traffic on a network, the network traffic having been captured at a network monitoring computer during a period of time, the method comprising:

at a user computer remote from the network monitoring computer,
receiving data points corresponding to the captured network traffic, the data
points comprising:

for the captured network traffic, start time, end time, total frames
and total bytes; and

information about sections of the captured network traffic, the
information including start time, end time, number of frames in the section
and number of bytes in the section; and
storing a histogram, including the data points, at the user computer.

2. The method of claim 1, further comprising at the user computer,
presenting a user with a graphical user interface representation of the network traffic by
graphing byte density over time in a capture histogram by using the histogram.

3. The method of claim 2, wherein presenting a user with a graphical user interface representation of the network traffic comprises:

including a zoom window, the zoom window useful for highlighting a segment of the capture histogram; and
representing the segment of the capture histogram in a zoom histogram.

4. The method of claim 3, further comprising:

including a data selection window useful for highlighting a segment of the zoom histogram;

storing a first downloaded captured data file that includes sections corresponding to the segment of the zoom histogram highlighted by the data selection window; and

displaying data frames corresponding to the highlighted segment of the zoom window.

5. The method of claim 4, further comprising storing a second downloaded captured data file that includes sections corresponding to a segment of the zoom histogram previously highlighted by the data selection window.

6. The method of claim 4, further comprising storing the first downloaded captured data file and the histogram together in a folder.

7. The method of claim 2, wherein presenting a user with a graphical user interface representation of the network traffic comprises applying a compression algorithm to at least a portion of the information in the histogram.

8. The method of claim 3, wherein representing the segment of the capture histogram in a zoom histogram comprises applying a compression algorithm to at least a portion of the information in the histogram.

9. The method of claim 4, the histogram further comprising a listing and description of downloaded captured data files stored on the user computer, the method further comprising using the listing and description of downloaded captured data files to code portions of the capture histogram and the zoom histogram with a first indicator representing sections stored at the user computer.

10. The method of claim 4, further comprising coding portions of the capture histogram and the zoom histogram with a second indicator representing sections that were previously at the user computer, but that are not presently at the user computer.

11. The method of claim 4, further comprising coding portions of the capture histogram and the zoom histogram with a third indicator representing sections that are not stored at the user computer or at the network monitoring computer.

12. The method of claim 4, the histogram further comprising a listing and description of downloaded captured data files stored on the user computer, the method further comprising:

using the listing and description of downloaded captured data files to color code portions of the capture histogram and the zoom histogram with a first color representing sections stored at the user computer;

color coding portions of the capture histogram and the zoom histogram with a second color representing sections that were previously at the user computer, but that are not presently at the user computer; and

color coding portions of the capture histogram and the zoom histogram with a third color representing sections that are not stored at the user computer or at the network monitoring computer.

13. The method of claim 4, further comprising:

downloading sections from the network monitoring computer that are not stored in downloaded captured data files at the user computer; and

combining the downloaded sections with a downloaded captured data file that was previously stored at the user computer.

14. The method of claim 1, further comprising saving the histogram for later use.

15. The method of claim 14, further comprising:
 - opening the histogram;
 - determining if the histogram corresponds to network traffic stored on the network monitoring computer using timestamps;
 - if the histogram corresponds to network traffic stored on the network monitoring computer, establishing a relationship between the network monitoring computer and the user computer such that network traffic existing on the network monitoring computer may be downloaded to the user computer.
16. The method of claim 4, comprising saving a downloaded captured data file stored on the user computer for later use.
17. The method of claim 16, comprising:
 - creating an individual histogram for the downloaded captured data file stored on the user computer for later use; and
 - displaying the individual histogram at the user computer.
18. A computer readable medium with instructions for performing the method of claim 1.

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19. A method of managing captured data from a network, the method comprising:

receiving a portion of the captured data from a remote network monitoring

computer;

storing at least one downloaded captured data file comprising the portion of the captured data, the captured data organized into sections;

storing a histogram, the histogram comprising:

a first part containing:

for all of the captured data, information including start time, end time, total frames and total bytes;

for each of the sections, start times, end times, number of frames and bytes/sec; and

a second part that includes a listing and description of the sections that are available in downloaded captured data files.

20. The method of claim 19, further comprising displaying a graphical user interface representation of the network traffic using information in the histogram.

21. The method of claim 20, wherein displaying a graphical user interface representation of the network traffic comprises graphing byte density over time.

22. The method of claim 20, further comprising:

displaying a data selection window that allows a user to select a portion of the graphical user interface representation representing a portion of the captured data that the user desires to view;

in response to a user selecting a portion of the graphical user interface representation, downloading sections of the captured data that are not stored in downloaded captured data files; and

storing the downloaded sections of the captured data in a downloaded captured data file.

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23. A computer readable medium having a plurality of data fields representing a data structure, the computer readable medium comprising:

a first data field containing data representing a histogram used to display a graphical user interface representing byte density of captured data over time, the histogram comprising, for substantially all of the captured data, start time, end time, total frames, and total bytes and for sections of the captured data, start times, end times, number of frames and bytes per second;

a second data field containing at least section of captured data stored as at least one downloaded captured data file representing sections of captured data; and

a third data field containing data representing a top-level folder for organizing the first data filed and the second data field into a file structure.

24. The computer readable medium of claim 23, the top level folder having the same name as the histogram.

25. The computer readable medium of claim 23, the top-level folder being in the same location as the histogram.

26. The computer readable medium of claim 23, at least one of the downloaded captured data files having a name that includes the captured data start time for the section captured data stored at the downloaded captured data file.

27. The computer readable medium of claim 23, at least one of the downloaded captured data files having a name that includes the name of the histogram.

28. The computer readable medium of claim 23, the histogram being created from a downloaded captured data file in response to a downloaded captured data file being opened directly.

29. The computer readable medium of claim 23 at least one of the downloaded captured data files being formed from a plurality of downloaded captured data files.

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